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08/817,076 07/15/97 YAMAMOTO

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FINNEGAN HENDERSON FARABOW GARRETT
& DUNNER
1300 I STREET NW
WASHINGTON DC 20005-3315

EXAMINER

NGUYEN, T

ART UNIT

PAPER NUMBER

2772

DATE MAILED:

09/28/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

08/817,076

Applicant(s)

Yamamoto

Examiner

Thu Nguyen

Group Art Unit

2772

☒ Responsive to communication(s) filed on 7/2/99 and 7/8/99

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 2-18 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 2, 4, 6-13, 15, 17, and 18 is/are rejected.

☒ Claim(s) 3, 5, 14, and 16 is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2, 4, 6-13, 15, 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gove (U.S Patent No. 5,491,510).

As per claim 2, Gove teaches a virtual image generation apparatus which comprises:

Shape data means for storing shape data pertaining to physical objects (the entrance path in col.4, lines 34-36);

Position data specification means for specifying position data for the subjects (the veins) (col.4, lines 34-36);

Gove does not explicitly teach an overlap determination means which determines whether a subject and a physical object are overlapped and generating virtual image using a show-through or non-show-through processing. However, since Gove teaches displaying a computer generated image of a subject (the vein) which is obscured by a physical object (the skin of a hand) and determine the displayed subject in the nearby region of a physical object (the entrance path) (col.4, lines 34-36), Gove inherently teaches an over-lapped determining means which determines

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displayed subject (the displayed vein) under a physical object (the skin) and displaying the obstructed subject using a show-through means. Further Gove teaches a non-show through processing (col.4, lines 13-17). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the non show through feature taught by Gove to display virtual image as claimed.

As per claim 4, since Gore teaches a method for displaying and highlighting a subject (a vein) of concern relatively to the physical object (the entrance path), Gove inherently teaches determining the overlapping state depending on the relative position of the object (the entrance path) and the under-lying subject (the concerned vein).

As per claim 6-7, since Gore teaches displaying the overlapping virtual image of the subject (the vein) (col.4, lines 34-36), Gore inherently teaches sequence of pixels for displaying virtual subject (the vein) as claimed. Further, as to claim 7, Gove teaches receiving data of the object from the camera and send the data to display system (col.4, lines 24-27), it would have been obvious to a person of ordinary skill in the art at the time the invention was made to generate a sequence of pixels of the physical object to display the physical object onto the display. Since the processor contains the pixel sequence of the object and pixel sequence of the vein, they must be alternately displayed (or interlacingly displayed) to obtain a combination of the object and the subject as shown in fig.5.

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As per claim 8-9, refer to discussion in claim 1 above. The claimed method and recording medium are the extent of the claimed system above.

As per claim 10-12, Gove does not explicitly teach the subject being operated by the a user. However, Gove teaches changing the perspective of the displayed subject when the user moves (col.4, lines 36-40), It would have been obvious to a person of ordinary skill in the art at the time the invention was made to operate the displayed subject by changing the position of the user.

As per claim 13, 15, 17-18 refer to discussion in claim 1, 4, 6-7 above. The claimed apparatus is the extend of the claimed method above.

Allowable Subject Matter

3. Claims 3, 5, 14, and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

4. Applicant's arguments filed 7/2/99 have been fully considered but they are not persuasive. In response to applicant's argument on page 3; and page 4, first three paragraphs, Gove

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really does not explicitly teaches an overlap determination means which determines whether a subject of a physical object overlapped. However, Gove teaches displaying a subject of concern (the veins in fig.5) relatively to the physical object (the entrance path in col.4, lines 34-36). Since Gove teaches just displaying and highlighting the nerves which is nearby or under the physical object (the mark area or the entrance path); he must have an overlapped determining means which determines the veins under or nearby the object or the entrance path, and display these elements. Further Gove teaches a non-show through processing (col.4, lines 13-17). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the non show through feature taught by Gove to display virtual image as claimed.

In response to applicant's argument on claim 7 (page 4, last paragraph; and page 5), Gove does not explicitly teach using a sequence of pixels to display a physical object. However, in col.4, lines 24-27, Gove teaches receiving data input of a physical object from the camera and sending data to the display, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to generate a sequence of pixels of the physical object to display the object as claimed.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any response to this final action should be mailed to:

Box AF

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 308-9051, (for formal communications; please mark "EXPEDITED
PROCEDURE")

Or:

(703) 308-6606 (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal
Drive, Arlington, VA., Sixth Floor (Receptionist).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Nguyen whose telephone number is (703) 306-9130. The examiner can normally be reached on Monday-Thursday from 8:00 am to 5:00 pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Powell, can be reached on (703) 305-9703. The fax phone number for this Group is (703)308-6606 .

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)305-3900.

NTV

September 21, 1999


MARK R. POWELL
SUPERVISORY PATENT EXAMINER
GROUP 2700